

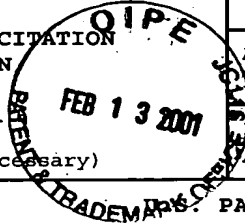
PTO-1449 REPRODUCED			ATTORNEY DOCKET NO. 1440.1027-005		APPLICATION NO. 09/543,371		
INFORMATION DISCLOSURE CITATION IN AN APPLICATION February 8, 2001 (Use several sheets if necessary)			APPLICANT Raghuram Kalluri		RECEIVED FEB 14 2001 GROUP <i>Art Unit</i> 1643 1644		
U.S. PATENT DOCUMENTS							
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
<i>KC</i>	AA	5,567,609	22 Oct 1996	Sarras, Jr. et al.	435	240.2	
	AB	5,691,182	25 Nov 1997	Sarras, Jr. et al.	435	240.1	
	AC	5,856,184	05 Jan 1999	Sarras, Jr. et al.	435	363	
	AD	5,114,840	19 MAY 1992	Tryggvason et al.	435	6	
	AE	5,424,408	13 JUN 1995	Reeders et al.	536	23.5	
	AF	5,593,900	14 JAN 1997	Tryggvason et al.	436	547	
<i>✓</i>	AG	5,731,192	24 MAR 1998	Reeders et al.	435	320.1	
FOREIGN PATENT DOCUMENTS							
<i>KC</i>		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AL	WO 96/00582	11 Jan 1996	PCT			
	AM	WO 89/03392	20 APR 1989	PCT			
	AN	WO 91/08755	27 JUN 1991	PCT			
	AO	WO 91/09113	27 JUN 1991	PCT			
<i>✓</i>	AP	WO 99/49885	07 Oct 1999	PCT			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
<i>KC</i>	AR	Butkowski, R.J., et al., "Properties of the Globular Domain of Type IV Collagen and Its Relationship to the Goodpasture Antigen," <i>The Journal of Biological Chemistry</i> , 260(6):3739-3747 (March 25, 1985).					
	AS	Gunwar, S., et al., "Properties of the Collagenous Domain of the $\alpha 3$ (IV) Chain, the Goodpasture Antigen, of Lens Basement Membrane Collagen," <i>The Journal of Biological Chemistry</i> , 266(21):14088-14094 (July 25, 1991).					
	AT	Gunwar, S., et al., "Glomerular Basement Membrane," <i>The Journal of Biological Chemistry</i> , 273(15):8767-8775 (April 10, 1998).					
<i>✓</i>	AU	Hostikka, S.L. and Tryggvason, K., "The Complete Primary Structure of the $\alpha 2$ Chain of Human Type IV Collagen and Comparison with the $\alpha 1$ (IV) Chain," <i>The Journal of Biological Chemistry</i> , 263(36):19488-19493 (December 25, 1988).					
EXAMINER <i>Karen Clemens</i>				DATE CONSIDERED <i>5/29/01</i> <i>5/5/02</i>			

PTO-1449 REPRODUCED

ATTORNEY DOCKET NO.
1440.1027-005APPLICATION NO.
09/543INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

February 8, 2001

(Use several sheets if necessary)

APPLICANT
Raghuram KalluriFILING DATE
April 4, 2000GROUP
1643Art Unit
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PATENT DOCUMENTS

EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
KC	AH	5,753,230	19 MAY 1998	Brooks, et al.	424	158.1	
	AI	5,766,591	16 JUN 1998	Brooks, et al.	424	184.1	
	AJ	5,973,120	26 OCT 1999	Reeders, et al.	530	356	
	AK	6,007,980	28 DEC 1999	Reeders, et al.	435	4	
✓	AA2	6,017,926	25 JAN 2000	Askew, et al.	514	300	

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
KC	AQ	WO 97/06791	27 FEB 1997	PCT			
	AL2	WO 97/45137	04 DEC 1997	PCT			
	AM2	WO 99/02551	21 JAN 1999	PCT			
	AN2	WO 99/16465	08 APR 1999	PCT			
	AO2	WO 00/11475	02 MAR 2000	PCT			
	AP2	WO 00/31248	02 MAR 2000	PCT			
✓	AQ2	WO 00/59532	31 MAR 2000	PCT			

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KC	AV	Kalluri, R., et al., "The $\alpha 3$ chain of type IV collagen induces autoimmune Goodpasture syndrome," <i>Proc. Natl. Acad. Sci. USA</i> , 91:6201-6205 (June 1994).
	AW	Kalluri, R. et al., "The Goodpasture Autoantigen," <i>The Journal of Biological Chemistry</i> , 271(15):9062-9068 (April 12, 1996).
	AX	Kalluri, R., et al., "Isoform Switching of Type IV Collagen is Developmentally Arrested in X-Linked Alport Syndrome Leading to Increased Susceptibility of Renal Basement Membranes to Endoproteolysis," <i>J. Clin. Invest.</i> , 99(10):2470-2478 (May 1997).
	AY	Langeveld, J.P.M., et al., "Structural Heterogeneity of the Noncollagenous Domain of Basement Membrane Collagen," <i>The Journal of Biological Chemistry</i> , 263(21):10481-10488 (July 25, 1988).
✓	AZ	Liotta, L.A., "Cancer Cell Invasion and Metastasis," <i>Scientific American</i> , 54-64 (February 1992).

EXAMINER

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		FILING DATE April 4, 2000		GROUP 1643 1614	
U.S. PATENT DOCUMENTS					
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS
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KC	AR2	Maragoudakis, M.E., et al., "Basement membrane biosynthesis as a target for developing inhibitors of angiogenesis with anti-tumor properties," <i>Kidney International</i> , 43:147-150 (1993).			
	AS2	Mariyama, M., et al., "The $\alpha 4$ (IV) Chain of Basement Membrane Collagen," <i>The Journal of Biological Chemistry</i> , 267(2):1253-1258 (Jan. 15, 1992).			
	AT2	Mariyama, M., et al., "Colocalization of the Genes for the $\alpha 3$ (IV) and $\alpha 4$ (IV) Chains of Type IV Collagen to Chromosome 2 Bands q35-q37," <i>Genomics</i> , 13:809-813 (1992).			
	AU2	Monboisse, J.C., et al., "The $\alpha 3$ Chain of Type IV Collagen Prevents Activation of Human Polymorphonuclear Leukocytes," <i>The Journal of Biological Chemistry</i> , 269(41):25475-25482 (Oct. 14, 1994).			
	AV2	Morrison, K.E., et al., "Sequence and Localization of a Partial cDNA Encoding the Human $\alpha 3$ Chain of Type IV Collagen," <i>Am. J. Hum. Genet.</i> , 49:545-554 (1991).			
	AW2	Neilson, E.G., et al., "Specificity of Goodpasture Autoantibodies for the Recombinant Noncollagenous Domains of Human Type IV Collagen," <i>The Journal of Biological Chemistry</i> , 268(12):8402-8405 (April 25, 1993).			
	AX2	Prockop, D.J. and Kivirikko, K.I., "COLLAGENS: Molecular Biology, Diseases, and Potentials for Therapy," <i>Annu. Rev. Biochem.</i> , 64:403-34 (1995).			
	AY2	Sarras Jr., M.P., et al., "Extracellular Matrix (Mesoglea) of <i>Hydra vulgaris</i> ," <i>Developmental Biology</i> , 148:481-494 (1991).			
	AZ2	Saus, J., et al., "Identification of the Goodpasture Antigen as the $\alpha 3$ (IV) Chain of Collagen IV," <i>The Journal of Biological Chemistry</i> , 263(26):13374-13380 (September 1988).			
✓	AR3	Timpl, R., et al., "A Network Model for the Organization of Type IV Collagen Molecules in Basement Membranes," <i>Eur. J. Biochem.</i> , 120:203-211 (1981).			
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Karen Clemens <i>JK</i>		3/5/02 5/29/01			

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		GROUP 1643		SUB-CLASS 1644	

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EXAM- INER INI- TIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS							
DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO		

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)	
KC	AS3 Vuorio, E. and de Crombrughe, B., "The Family of Collagen Genes," Annu. Rev. Biochem., 59:837-72 (1990).
AT3	Zhou, J., et al., "Deletion of the Paired $\alpha 5$ (IV) and $\alpha 6$ (IV) Collagen Genes in Inherited Smooth Muscle Tumors," <i>Science</i> , 261:1167-1169 (August 27, 1993).
AU3	Senger, D.R. et al., "Angiogenesis promoted by vascular endothelial growth factor: Regulation through $\alpha_1\beta_1$ and $\alpha_2\beta_1$ integrins," <i>Proc. Natl.</i> <i>Acad. Sci USA</i> 94:13612-13617 (1997)
AV3	Prestayko, A.W., et al., "Type IV collagen domains inhibit adhesion and migration of tumor cells and block angiogenesis," <i>Proceedings of the</i> <i>American Association for Cancer Research</i> , 39:45 (March 1998).
AW3	Sado, Y., et al., "Induction of anti-GBM nephritis in rats by recombinant $\alpha 3$ (IV)NC1 and $\alpha 4$ (IV)NC1 of type IV collagen," <i>Kidney</i> <i>International</i> , 53:664-671 (1998).
AX3	Brinker, J.M., et al., GenBank Acc. No. M11315, 01-Nov-94.
AY3	Killen, P.D., et al., GenBank Acc. No. M24766, 01-Nov-94.
AZ3	Quinones, S., et al., GenBank Acc. No. M92993, 23-Sep-94.
AR4	Turner, N., et al., GenBank Acc. No. M81379, 30-Oct-94.
AS4	Mariyama, M., et al., GenBank Acc. No. X80031, 05-Oct-98.
AT4	Han, J., et al., "A Cell Binding Domain from the $\alpha 3$ Chain of Type IV Collagen Inhibits Proliferation of Melanoma Cells," <i>The Journal of</i> <i>Biological Chemistry</i> , 272(33):20395-20401 (1997).
AU4	Shahan, T.A., et al., "Identification of CD47/Integrin-associated Protein and $\alpha v\beta 3$ as Two Receptors for the $\alpha 3$ (IV) Chain of Type IV Collagen on Tumor Cells," <i>Cancer Research</i> , 59:4584-4590 (1999).

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RC	AV4	Boudreau, N., et al., "Suppression of ICE and Apoptosis in Mammary Epithelial Cells by Extracellular Matrix," <i>Science</i> , 267:891-893 (1995)					
/	AW4	Briesewitz, R., et al., "Expression of Native and Truncated Forms of the Human Integrin α_1 Subunit," <i>J. Biol. Chem.</i> 268:2989-2996 (1993)					
/	AX4	Brooks, P.C., et al., "Requirement of Vascular Integrin $\alpha_v\beta_3$ for Angiogenesis," <i>Science</i> 264:569-571 (1994)					
/	AY4	Chan, B.M.C., et al., "In Vitro and In Vivo Consequences of VLA-2 Expression on Rhabdomyosarcoma Cells," <i>Science</i> 251:1600-1602 (1991)					
/	AZ4	Dickeson, S.K., et al., "Determinants of Ligand Binding Specificity of the $\alpha_1\beta_1$ Integrins," <i>J. Biol. Chem.</i> 274:32182-32191 (1999)					
/	AR5	Fleischmajer, R., et al., "There is Binding of Collagen IV to β_1 Integrin During Early Skin Basement Membrane Assembly", <i>Ann. N.Y. Acad. Sci.</i> 857:212-227 (1998)					
/	AS5	Gehlsen, K.R., et al., "Subunit Structure of a Laminin-binding Integrin and Localization of its Binding Site on Laminin," <i>J. Biol. Chem.</i> 264:19034-19038 (1989)					
/	AT5	Hynes, R.O., "Integrins: Versatility, Modulation, and Signaling in Cell Adhesion," <i>Cell</i> 69:11-25 (1992)					
/	AU5	Ivaska, J., et al., "A peptide Inhibiting the Collagen Binding Function of Integrin α_1 I Domain", <i>J. Biol. Chem.</i> 274:3513-3521 (1999)					
/	AV5	Kamphaus, G.D., et al., "Canstatin, a Novel Matrix-derived Inhibitor of Angiogenesis and Tumor Growth," <i>J. Biol. Chem.</i> 275:1209-1215 (2000)					
/	AW5	Kern, A., et al., "The Role of the I Domain in Ligand Binding of the Human Integrin α_1 and β_1 ," <i>J. Biol. Chem.</i> 269:22811-22816 (1994)					
✓	AX5	Kramer, R.H., and Marks, N., "Identification of Integrin Collagen Receptors on human melanoma Cells," <i>J. Biol. Chem.</i> 264:4684-4688 (1989)					
EXAMINER <i>Karen Clemens</i>				DATE CONSIDERED <i>3/5/02</i> <i>5/29/01</i>			

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Kc	AYS	Lochter, A., et al., " $\alpha 1$ and $\alpha 2$ Integrins Mediate Invasive Activity of Mouse and Mammary Carcinoma Cells through Regulation of Stromelysin-1 Expression", <i>Mol. Biol. Cell</i> 10:271-282 (1999)					
/	AZ5	Miles, A.J., et al., "Promotion of Cell Adhesion by Single-stranded and Triple-helical Peptide Models of Basement membrane Collagen $\alpha 1$ (IV) 531-543," <i>J. Biol. Chem.</i> 269:30939-30945 (1994)					
/	AR6	Miles, A.J., et al., "A Peptide Model of Basement membrane Collagen $\alpha 1$ (IV) 531-543 Binds the $\alpha_3\beta_1$ Integrin," <i>J. Biol. Chem.</i> 270:29047-29051 (1995).					
/	AS6	Mooney, A., et al., "Type IV Collagen and Laminin Regulate Glomerular Mesangial Cell Susceptibility to Apoptosis Via β_1 Integrin-Mediated Survival Signals," <i>Amer. J. Pathol.</i> 155:599-606 (1999)					
/	AT6	Petitclerc, E., et al., "New Functions for Non-collagenous Domains of Human Collagen Type IV," <i>J. Biol. Chem.</i> 275:8051-8061 (2000)					
/	AU6	Varner, J.A., et al., "Review: The Integrin $\alpha_v\beta_3$: Angiogenesis and Apoptosis." In: <i>Cell Adhesions & Communications</i> , C.A. Buck and J.P. Thiery (eds.) Harwood Academic Publishers, (1995)					
✓	AV6	Witkowski, C.M. and Kramer, J.M., "Site-Directed Mutations of Evolutionarily Conserved Sites on Type IV Collagen In <i>C. Elegans</i> ," Early 1997 International Worm Meeting Abstract 650 (1997)					
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